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ROTHWELL, FIGG, ERNST & MANBECK, P.C.
1425 K STREET, N.W.
SUITE 800
WASHINGTON, DC 20005

EXAMINER	
LAVARIAS, ARNEL C	

ART UNIT	PAPER NUMBER
2872	

NOTIFICATION DATE	DELIVERY MODE
04/08/2009	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

PTO-PAT-Email@rfem.com

Office Action Summary	Application No.	Applicant(s)	
	10/517,483	KAULE, WITTICH	
	Examiner	Art Unit	
	Arnel C. Lavarias	2872	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *28 January 2009*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-69* is/are pending in the application.

4a) Of the above claim(s) *7-50,54,57,60,64,66,67 and 69* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-6,51-53,55,56,58,59,61-63,65 and 68* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *12 October 2004* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Drawings

1. The originally filed drawings were received on 12/10/04. These drawings are acceptable.

Response to Amendment

2. The amendments to the abstract and specification of the disclosure in the submission filed 1/28/09 are acknowledged and accepted. In view of these amendments, the objections to the specification in Section 7 of the Office Action dated 10/28/08 are respectfully withdrawn.

3. The amendments to Claims 1-3, 5-6, 58, 61-62 in the submission filed 1/28/09 are acknowledged and accepted. In view of these amendments, the objections to the claims in Section 9 of the Office Action dated 10/25/08 are respectfully withdrawn.

Response to Arguments

4. The Applicant's arguments filed 1/28/09 have been fully considered but they are not persuasive.

5. The Applicant argues that, with respect to Claim 1, as well as Claims 2-6, 51-53, 55-56, 58-59, 61-63, 65, 68 which depend on Claim 1, Takahashi fails to teach or reasonably suggest a working field having fixed size predetermined by the writing apparatus and which can be moved to different positions of a substrate to be inscribed, and defining a

sequence of working fields with respect to the grating field. The Examiner respectfully disagrees. Takahashi specifically discloses a working field (See for example each of the squares 16 forming a portion of the entire diffraction grating field) having fixed size predetermined by the writing apparatus and which can be moved (See for example 20, which is an x-y translation stage which allows the working fields to be moved) to different positions of a substrate to be inscribed, and defining a sequence of working fields with respect to the grating field (In the instant case, each of the squares 16 are written one at a time, in sequence, and thus a sequence is necessarily defined for the squares 16 when the writing of the grating occurs.).

6. Claims 1-6, 51-53, 55-56, 58-59, 61-63, 65, 68 are rejected as follows.

Claim Objections

7. Claims 1-6, 51-53, 55-56, 58-59, 61-63, 65, 68 are objected to because of the following informalities:

Regarding Claim 1, line 5, the phrase "can be" renders the claim problematic because it is not certain whether the limitations following the phrase are part of the claimed invention. See MPEP § 2173.05(d). Claims 2-6, 51-53, 55-56, 58-59, 61-63, 65, 68 are dependent on Claim 1, and hence inherit the deficiencies of Claim 1.

Claim 6 recites the limitations "the help" and "the coordinates" in line 2. There is insufficient antecedent basis for these limitations in the claim.

Appropriate correction is required.

Claim Rejections - 35 USC § 102

8. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

9. Claims 1-2, 51-53, 55-56, 58-59, 61-63, 65, as best understood, are rejected under 35 U.S.C. 102(b) as being anticipated by Takahashi (JP 09-230122A), of record.

Takahashi discloses a method (See for example Abstract; Figures 1-2) for producing a grating image (See for example 14, 16, 18 in Figures 1-2), which at least has one grating field (See for example 16 in Figures 1-2, 5-6) with visually recognizable, optically variable properties, in which grating elements (See for example 18 in Figure 2) are disposed, that are produced by means of a writing apparatus (See for example Figure 1), wherein a working field (See for example each of the squares 16 forming a portion of the entire diffraction grating field, in Figures 2, 5-6) of the writing apparatus has a fixed size predetermined by the writing apparatus and is movable (See for example 20 in Figure 2, which is an x-y translation stage which allows the working fields to be moved) to different positions of a substrate to be inscribed, the method comprising the following steps: a) determining at least one uniform grating element, which completely lies within one working field (See for example 18 in Figure 2; Paragraphs 0009-0013); b) defining a sequence of working fields with respect to the grating field (See various dots/pixels 16 in Figures 2, 5-6; In the instant case, each of the squares 16 are written one at a time, in sequence, and thus a sequence is necessarily defined for the squares 16 when the writing

of the grating occurs), in each of which the at least one grating element is to be produced continuously without interruption along its entire length by means of the writing apparatus (It is noted that within each dot/pixel 16, the grating elements 18 are produced continuously without interruption along their entire length inside the dot/pixel); c) moving to the working fields by relative movement of a carrier (See for example 20 in Figure 2), on which is located the substrate (See for example 14 in Figure 2), and the writing apparatus; d) writing the at least one grating element into the substrate with the writing apparatus within the respective working fields (See Figures 1-2). Takahashi additionally discloses that the determination of the at least one grating element in step a) is effected with a help of a data record (See for example Paragraphs 0007-0010, wherein dot data and image data are utilized), which contains information about form and position of the at least one grating element forming the grating field; an apparatus for carrying out the above method (See for example Claim 1); a grating image produced according to the above method (See for example 14, 16, 18 in Figure 2); a security element with at least one grating image produced according to the above method (See for example 14, 16, 18 in Figure 2), wherein the security element may be a security thread, a label or a transfer element (See for example 14, 16, 18 in Figure 2); a security paper with at least one grating image produced according to the method above (See for example 14, 16, 18 in Figure 2); a security document with at least one grating image produced according to the above method (See for example 14, 16, 18 in Figure 2); a transfer material, with at least one grating image, produced according to the method above (See for example 14, 16, 18

in Figure 2); and an embossing tool with at least one grating image, produced according to the method above (See for example 14, 16, 18 in Figure 2).

Claim Rejections - 35 USC § 103

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

11. Claims 3-6, as best understood, are rejected under 35 U.S.C. 103(a) as being unpatentable over Takahashi in view of Jackson et al. (U.S. Patent No. 5335113), of record.

Takahashi discloses the invention as set forth above in Claims 1-2, but does not explicitly disclose the data record containing coordinates of starting, end, or intermediate points or of Bezier curves, such that the at least one grating element is continuously produced in one writing operation. However, the use of coordinate values to represent lines and curves is known in the art. For example, Jackson et al. teaches a conventional method for producing a diffractive grating structure (See for example Abstract; Figures 11-12), wherein a diffractive image is converted into computerized data by transforming the diffractive elements of the image into coordinate information (See for example col. 1, line 47-col. 2, line 28; col. 4, line 44-col. 6, line 35). Such data would necessarily include starting, ending, and intermediary coordinate points as needed to describe each of the diffractive elements of the image. The computerized data is then input to a computer

system attached to an electron beam lithography system modified for line writing operations (See for example col. 6, lines 52-59). Though the specific use of Bezier curves is not specifically disclosed, such would have been another apparent way to one having ordinary skill in the art to parameterize the grating element lines into coordinate data. Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have the data record in the method of Takahashi, contain coordinates of starting, end, or intermediate points or of Bezier curves, such that the at least one grating element is continuously produced in one writing operation, as taught by Jackson et al., for the purpose of providing a diffractive image having diffractive elements which are more structurally stable and more easily replicated using the electron beam lithographic writing technique, thus minimizing degradation of the expected viewed image of the diffractive image.

12. Claim 68, as best understood, is rejected under 35 U.S.C. 103(a) as being unpatentable over Takahashi in view of Lee (WO 91/03747 A1), of record.

Takahashi discloses the invention as set forth above in Claims 1, 63, except for the transfer material comprising hot stamping foil. However, Lee teaches a conventional method for forming a diffractive structure (See for example Abstract; Pages 8-9), wherein a hot embossing process utilizing a gold coated nickel master of the diffractive structure and hot stamping foil of aluminum and plastic coated films (See Page 9). Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have the transfer material comprise hot stamping foil, as taught by Lee, in the

method of Takahashi, to allow for inexpensive, high quality replicas of the diffractive structures to be fabricated from the master embossing die.

Conclusion

13. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

14. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Arnel C. Lavarias whose telephone number is 571-272-2315. The examiner can normally be reached on M-F 10:00 AM - 6:30 PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephone B. Allen can be reached on 571-272-2434. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Arnel C. Lavarias
Primary Examiner
Group Art Unit 2872
3/30/09

/Arnel C. Lavarias/
Primary Examiner, Art Unit 2872